ASBESTOS

AUGUST

NINETEEN THIRTY-SEVEN

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ASBESTOS ROOFING

Specific Types for Specific Jobs

By M. E. Lerner

To the average layman the word "asbestos" conjures up a vision of roofing, or possibly theatre curtains, far more than it does any other application. To the members of the far-flung asbestos industry, however, the single term roofing is insufficient.

What type of roofing? What form of asbestos? and other questions readily present themselves. And the answers are far from simple, as a survey of the asbestos materials used in different types of roofing proved.

This article, therefore, is intended to point out the major factors which must be taken into consideration before asbestos products are specified.

Climatic conditions prevailing in the geographic location of the job and the presence of industrial gases and fumes which are detrimental to certain types of asbestos materials both must be considered in the selection of the roofing construction. We are not attempting to discuss the wide range of construction factors, such as type and incline of roof deck, which also must be considered in deciding upon the roofing to be used, except as they particularly affect our subject.

In the case of small homes, ordinary asbestos-cement shingles, made from the two imperishable materials—asbestos and Portland cement,—are generally recommended. With the latest processes, these shingles are available in a wide variety of colors, sizes and shapes. Once applied they seldom require any further maintenance and give to the house the security of fireproofness, besides being practically weatherproof. Asbestos cement shingles for such roofing applications run within a range of 3/16 to 5/16 of an inch in thickness.

When we turn to industrial types of buildings and factories, then the specifications differ for almost every individual trade. For instance, in paper and pulp mills severe humidity is caused by the machinery run by power

plant equipment and steam lines, with the wide variety of chemicals in use adding to the humidity. In such cases it is essential that the roofing be absolutely rotproof, naturally fireproof and almost indestructible. These requirements are answered with the aid of asbestos. In one instance, the base for the roof was corrugated asbestos-cement laid directly over the purlins, or supports, the corrugations then leveled in the usual manner, and finished with an asbestos built-up roof, that is, a combination of asphalt and asbestos felt. As used in built-up roofing, the asbestos fibres are first felted, then impregnated with asphalt, the combination resulting in a flexible stone roofing material. In the case reported, this roofing minimized roof drip and periodic shut-downs for repairs in the machine rooms, as well as it insured permanent, waterproof protection.

Corrugated asbestos-cement is especially recommended for use where oil refineries are concerned. In this connection it is very often used for fireproof aprons and roofs over stills and for housings of various types. The fumes associated with the refining of oil often eat into ordinary types of roofing materials, causing constant repair and maintenance charges. Special curved or cut sheets are furnished, where it is necessary to meet such requirements. This asbestos material plays an important part in the roofing used on oil refineries of the Tdiewater Oil Company, one of the largest in the business.

Oil refineries, of course are replete with cracking furnaces and here again asbestos cement plays its part, this time in the form of flat sheets. These cracking furnaces are often insulated with asbestos-sponge felted sheets and blocks and fully protected with a fireproof, weatherproof casing of flat asbestos-cement on the walls and with a corrugated asbestos cement apron and roof. The advantages of this material in this connection include its high resistance to acid fumes and severe weather conditions, while painting, finishing or protection against deterioration is never required. Curiously (and for this one reason alone, oil refineries welcome this asbestos material) asbestos-cement does not become warped or distorted in service but rather strengthens and toughens

with age. Flat sheets are generally furnished in thicknesses of from 1/8 to 4 inches. It is also interesting to note that this survey indicated a widespread use of asbestos-cement ventilators in oil refineries (as well as other industrial buildings) because of corrosion-resisting qualities.

Altho not directly associated with roofing, asbestos-cement pipe was also found to have been widely adapted in connection with stacks especially for factories housing chemical companies. These stacks serve to carry off products of combustion, found in practically every chemical plant. It has other advantages too, such as its high degree of heat resistance and its maintenance of high flue gas temperatures which thus decreases condensation and improves draft. Here again, an asbestos product is welcomed by a special industry because the stack material previously used often deteriorated rapidly under the extreme service conditions encountered.

Where acid fumes must be considered one of the leading asbestos manufacturers furnishes two specific suggestions:

Where *moderate* acid fumes are indicated the following procedure should be adapted—a coat of asphalt primer, a heavy asphalt saturated and coated rag felt, termed a base sheet, which is lapped two inches and bonded to the deck with hot asphalt, two plies of asbestos felt impregnated and coated on one side with asphalt bonded and sealed to the base sheet by solid moppings of asphalt.

Where *excessive* acid fumes are encountered the same application is followed, with the important exception that an asbestos base sheet is used and bonded to the deck this sheet consisting of asphalt impregnated and coated with asbestos felt. These two methods are recommended by this manufacturer in all parts of the United States, irrespective of climatic and geographical conditions, but where either moderate or excessive fumes must be taken into consideration.

In the distillery, or even in rectifying plants, it is essential to the quality of the products being prepared that rigid control of temperature be maintained at all times. With ordinary roofing materials this is not as easy

as it sounds, despite all of the mechanical and electrical gadgets within the distilleries proper. In this case smooth surface built-up asbestos felt roofs are recommended with sufficient layers to furnish the required insulation. In this manner exact control of temperature may be maintained. In addition, this roofing makes for permanence and protection.

Incidentally, readers of "ASBESTOS" may recall the disastrous fire which broke out at one of the Hiram Walker warehouses at Peoria in July, 1935. The roof of this warehouse was made of asbestos shingles laid over asbestos roofing felt. Once ignited, the burning alcohol in the warehouse caused every barrel in the place to explode, with the flames raging unabated for more than 5 hours. Fortunately, the asbestos roof blanketed the flames and prevented the fire from spreading to the other recently constructed buildings at this plant.

We find corrugated asbestos-cement again put to use by the public utility companies in connection with their gas making equipment. A vital part of this apparatus is the purifier box where the gas is softened for use by the public. In one case, that of a purifier box used by the Utica Gas & Electric Company, the walls of the box were protected by 3 inch rock cork sheets over which were laid corrugated asbestos-cement sheets, rock cork also being used for the top.

Where outdoor piping of cold materials is concerned, almost irrespective of the type of plant involved, an insulation protected by an integral waterproof jacket is generally recommended this being used extensively on outdoor pipes in oil refineries. The jacket referred to is generally a 3-ply waterproof asbestos jacket, the combination of the two products making a material which withstands heavy vibration as well as rain, ice and sub-zero weather.

Where outdoor insulation is concerned, many asbestos manufacturers and suppliers recommend additional weatherproofing by means of such products as Johns-Manville's Aertite Coating, a tough, rubbery, asphaltic-asbestos coating in plastic form. Because of the radical temperature changes, to which outdoor insulation is sub-

jected, weatherproofing of some kind is almost essential to the proper usage of the particular insulation.

These are but a few instances of the use of special asbestos roofings by industry. There are others, such as special treatment for steel mills and their multitudinous plants and systems, for the non-ferrous metals industry, for cement and lime plants, for glass making companies, for breweries, and for countless other industries. Where industrial roofing is concerned, generalities seldom apply and special problems must be specially treated.

The versatility of asbestos makes the various asbestos products adaptable to practically every one of these special problems in industrial roofing.

A New Products Division has been formed by the Westinghouse Electric & Mfg. Co., for the development and broadening the field of applications of products which have not reached the state of commercial apparatus. After the field for each new product has been determined and the product has passed thru the pilot plant stage, it will be absorbed by one of the regular company divisions. The new division will also train a staff that will be adequate for the further promotion of the product.

AIR FLOTATION--

Experiments in the Reclaiming of Asbestos Fibres

By C. C. Downie

Air-flotation has been applied to numerous small mineral industries, particularly those connected with materials possessing unduly low specific gravities.

So far as asbestos is concerned, the separation of the fibre from the quarried or mined rock does not leave much to be desired. Altho cases have been cited where certain mining companies have employed air-flotation for asbestos separation, this really amounts to only a small fraction of the fibre which is treated by the ordinary systems.

Recently, efforts have been made to ascertain to what extent reclamation work could be done by air-flotation.

The material so treated is principally mixed fibres which have been thrown out as waste. Included among these are various textile materials in which asbestos fibre has been incorporated; also asbestos paper.

It is well known that the respective specific gravities of either of these materials, namely textile goods, and paper, vary only slightly from that of asbestos itself.

On the other hand the waste material is seldom in a condition to be utilized further in the capacity for which it was orginally intended. The physical properties of the cloth or paper may be impaired, but this is seldom the case with the asbestos fibre. Asbestos paper can seldom stand the effects of folding, and, to a lesser degree, the same might be said of mixed cotton and asbestos in textiles. The latter mixed material is often injured by heat when used for lagging purposes and therefore has to be scrapped. Hence the asbestos fibre remains more or less as it was originally, while the organic matter has sustained injury. For this reason, experiments were carried out to ascertain how much asbestos could be recovered from such waste.

Mixed asbestos material is usually difficult to ignite

and maintain in burning condition, and it was therefore found advisable to carry out the combustion in a closed chamber. When the ignition and burning was completed, the mass of ashes was carefully swept out and transferred to the air-flotation apparatus. The plant consisted of a blower arrangement which projected a controlled blast of air onto the fine-mass.

Complete combustion ensures that all organic matter is converted to carbon, which possesses a specific gravity of approximately 2.2.

Asbestos fibre usually possesses a specific gravity of 3.07 and upwards, depending on the amount of iron and other impurities present. Hence separation by means of air flotation is made a practical possibility. All material so treated must bereduced to the condition of a fine powder, since altho the burning generally provides a loose mass, it is desirable to ensure that the one material will not be mechanically held by the other. The air blast is

so applied that it causes the mass of ash to be blown upwards in the form of a cloud. This cloud is allowed to descend across a lengthy channel, the asbestos drops out first, and is thus collected practically free from carbonaceous matter.

BOMBPROOF MATERIAL--

British Home Office Tests an Asbestos Product

The British Home Office, which controls internal affairs, has for some time past been consulting leading fire experts over the preparation of a national plan for minimizing damage caused by incendiary bombs in the event of war.

As a result, it is probable that the Home Office will shortly issue a booklet of advice to civil authorities and to owners of factories and other important buildings giving suggestions for the protection of buildings and describing the best methods for restricting fires caused by air attack. It is expected that asbestos will figure largely in these suggestions.

The modern incendiary bomb, loaded with thermit, a mixture of aluminum and iron oxide, attains a temperature of more than 5,000 degrees F during combustion.

A new material capable of resisting thermit-loaded bombs is now being produced in London and was recently subjected to severe tests in the presence of Home Office experts. The material consists of two sheets of steel keyed by a patent process to a highly compressed asbestos core. Hydraulic machinery with a pressure of more than 4,000 tons is used in the manufacture of these sheets. The tests were made with thermit, and the results were noted.

Experts from the British Army, Navy and Air Force have all inspected this new material recently.

Plenty of people have a good aim in life, but a lot of them don't pull the trigger.

MARKET CONDITIONS

GENERAL BUSINESS

So many factors, particularly the strikes and clashes between labor unions confuse the issue, that it is hard to decide just what to say when the question as to the status of general business is asked.

If given half a chance business will show continued improvement for some time to come, except, of course, for slight seasonal lapses. The signs of business improvement are everywhere apparent—more money is being spent, more automobiles are on the road, more people are touring, summer resorts are much better patronized—all of us could name perhaps a hundred ways in which improvement can be noted as we go our daily round.

The National City Bank letter for August sums up the present business situation as follows: "The business outlook has improved during July, and expectations of a Fall upturn have been strengthened as compared with a month or two back, when labor troubles and political uncertainties were at their worst. Crop prospects, favorable since the beginning of the season, continue exceptionally good. The depressing influence of the decline in the stock and bond markets is passing off, both having recovered a substantial part of their losses, and sales of new security issues to raise capital for the industries have improved over earlier months. Commodity prices also have rallied on the average, despite adjustment of some farm prices to new crop prospects."

ASBESTOS - RAW MATERIAL

Demand in this market is splendid for all grades. Canadian mines are operating at full capacity. Every indication of continued demand from all sources for balance of the year. Prices are firm on all grades.

ASBESTOS - MANUFACTURED GOODS

Textiles. The situation in the Textile market is about the same as last month. Volume is holding well with prices

firm. There are no outstanding developments at present.

Paper and Millboard. There is little change in this market—demand is very slight at present (a seasonal slackening for the most part). Prices are firm, the natural result of rising raw material costs, constantly increasing taxes and increased manufacturing and selling expense all along the line.

Insulation. High Pressure. Demand in this market continues encouraging. As is to be expected when any industry is busy and on a reasonably profitable basis, everybody rushes in with the idea that they too can acquire in a few months the experience, the good will and the business that it has taken the established manufacturers years to build up.

Insulation. Low Pressure. The comments made above on the Paper market apply almost without variation to the Low Pressure Insulation field. While a seasonal slackening makes demand very light, prices are firm on account of rising costs.

Asbestos-Cement Products. Market conditions on all asbestos-cement products, particularly siding shingles, continue to be generally satisfactory and the industry is enjoying a substantial increase in volume over last year.

The above comments have been furnished by various executives closely in touch with the several individual markets. All comments of this character are always welcome.

CURRENT RANGE OF PRICE

on Canadian Crudes and Fibres

	Per ton (2000 lbs.) f. o. b. Mine
Group 1 (Crude No. 1)	$550.00 to $600.00
Group 2 (Crude No. 2, Crude Run of Mine or Sundry)	150.00 to 225.00
Group 3 Spinning or Textile Fibre	90.00 to 175.00
Group 4 Shingle Fibre	45.00 to 75.00
Group 5 Paper Fibre	32.50 to 42.50
Group 6 Waste, Stucco or Plaster	29.00
Group 7 Refuse or Shorts	10.00 to 23.00

KEASBEY & MATTISON COMPANY-

enters the asbestos-cement pressure pipe field---

One of the oldest manufacturers of asbestos and magnesia products in the United States, the Keasbey & Mattison Company of Ambler, Pa., adds another line to its production, announcing entry into the asbestos-cement pressure pipe field.

A new plant, representing an investment of $760,000.00 is now under construction at Ambler, for the sole manufacture of this product. The plant, to be completed the latter part of this year, will begin production early in 1938.

Floor area of the new plant with service buildings will be 143,000 square feet. It is of single story construction, without basement. Roofing and siding will be entirely of asbestos corrugated sheathing which is manufactured by Keasbey & Mattison Company. Fifteen or more carloads of this material will be required. Over the asbestos corrugated sheathing, which will be the base roof, will be placed a special insulating material, and above this will be a built-up roof.

The new plant will have a weekly capacity of 150 tons, or approximately 10 miles of asbestos-cement pipe. The pipe will be designed for service at pressures ranging from 50 to 200 lbs. per square inch.

A second plant devoted to asbestos cement pressure pipe production will shortly go into construction in St. Louis, where Keasbey & Mattison Company already has an asbestos-cement plant in operation. The new St. Louis plant will represent an investment of $500,000 for building and equipment and will have a capacity of 100 tons or approximately 7 miles of pipe per week. Production from this plant is also scheduled for early in 1938. Both of the plants will embrace the latest material-handling equipment. Additional employment at these two new plants will number approximately 350 men.

Modern municipal and manufacturing needs have indicated a demand for this type of light-weight, non-corroding, non-tuberculating pipe and, according to officials have

caused this old line company to enter the field for the supply of this product.

Keasbey & Mattison Company now operates two plants at Ambler, devoted to the manufacture of asbestos-cement products and a third plant to the manufacture of asbestos-magnesia products, asbestos textiles, etc. They also operate their Ferodo brake lining plant at New Brunswick, N. J.

PATENTS

An average of a dozen patents are granted each month by the United States Patent Office on materials or methods of manufacture connected in some way with asbestos, either containing asbestos fibre or some asbestos product, or else covering some machine or gadget of service to the Asbestos Industry.

"ASBESTOS" tries to print a short description of such materials or methods, giving the name of patentee, serial number, etc., so that readers can, if they so desire, obtain copies of the patent from the U. S. Patent Office, for the small sum of 10c each.

One of the most interesting patents which has come to our attention recently, is that granted to Vincent P. Wachter, of Joliet, Ill., on a Noiseless Antiskid Horseshoe, which is made of rubber and contains inserts of "woven wire and asbestos material," (evidently a metallic asbestos cloth of some kind) "embedded in the rubber body in a position to have edges of the materials exposed thru and forming part of the tread surface."

We suppose this horseshoe is for the purpose of lessening noise on the city streets, especially in the early morning, when the clop, clop of horses drawing milk delivery wagons is maddening to the sleeping or sleepy populace. Since a number of cities are conducting campaigns for the lessening of noise, it looks as tho the patent might have some potential value for asbestos textile manufacturers.

CONTRACTORS AND DISTRIBUTORS PAGE

A Practical Answer To a Practical Problem

Most of you have read the very helpful advice given by Roger B. Whitman on house repair problems, which constitutes a regular feature of various newspapers and magazines.

Every once in a while Mr. Whitman writes us for answers to some problem in insulation or on other asbestos products; in fact we have an understanding with him to the effect that we will be glad to supply such information if possible to do so.

Here is one which he put up to us the other day and which we referred to a practical insulation man. Our readers may find it of interest and perhaps even helpful:

QUESTION: Considering a home owner of medium income, unable to hire work done, by what process and with what material can he himself do a reasonably good job of insulation on his house heating boiler? Magnesia or other block material would be beyond his ability.

ANSWER: In spite of the fact that a home owner may have a limited income, it might pay him to have a first class insulation job done on his boiler by a skilled mechanic using 85% Magnesia Block wired on and finished with a half inch of hard finish asbestos cement suitably reinforced with hexagonal mesh wire netting. With this type of construction he would be assured of the most efficient type of insulation properly applied.

However, assuming that he could not arrange for the expenditure necessary for an applied job, the next best thing he could do would be to purchase a mineral wool type of cement, such as J-M No. 450. This material is mixed with water and applied with a trowel in layers approximately one-half inch thick and will readily stick to any iron surface and does not absolutely require wire mesh reinforcement. The final coat of such a cement can be smoothed with a trowel or mixed with Portland cement in order to give a hard finish, if this is desired. It would require approximately one-third greater thickness of this cement to get the same efficiency as obtained from 85% Magnesia Block.

A still stronger job can be done if the cement is reinforced with hexagonal wire mesh. This cement is easy to apply and will cover fifty square feet, one inch thick for each one hundred pounds of cement. If the home owner does not desire as efficient an insulation as the former materials, he can apply the usual asbestos cement, which also is mixed with water and spread on the boiler surface with a trowel. This material re-

quires approximately three and one-half times as great a thickness as 85% Magnesia Block in order to get the same insulating efficiency. Asbestos cements of this type cover from fifteen to twenty square feet, one inch thick, per one hundred pounds of cement.

Building

Construction recovery reached a new high point in June, topping the previous recovery peak reported in July 1936, by eight per cent. According to figures of F. W. Dodge Corporation, the June construction total covering all classes of work amounted to $318,137,100 in the 37 states east of the Rocky Mountains. This was an increase of 30 per cent over the figure of $244,112,800 for May of this year and represented a gain of about 37 per cent over the June 1936 total of $232,644,700.

Of the June 1937 total, residential building accounted for $93,123,100; non-residential building took $125,087,000; while the remaining $99,927,000 went into civil engineering projects, i. e., public works and utilities.

The June residential figure compares with $83,937,000 for May 1937 and with $73,604,600 for June 1936. Increases in residential building as contrasted with totals for a year earlier were well distributed geographically with every important major area sharing in the advance except metropolitan New York and the St. Louis territory (Eastern Missouri, Arkansas, Southern Illinois and Western Tennessee).

Increases in June over a year ago in non-residential building operations occurred in every major geographic district, excepting only the Southern peninsula of Michigan, the New Orleans territory (Louisiana and Mississippi) and Texas.

Civil engineering projects showed increases over June 1936 figures in every district except upstate New York, the Southeast (The Carolinas, Georgia, Florida, Alabama and Eastern Tennessee) and the St. Louis territory.

AUTOMOBILE PRODUCTION

Automobile Production for the month of June 1937 totalled 521,139 (497,298 in the U. S. A. and 23,841 in Canada); compared with 469,368 (452,968 in the U. S. A. and 16,400 in Canada) during June 1936. The May 1937 total was 540,357 (516,899 in the U. S. A. and 23,458 in Canada).

Total production for the first six months of 1937 was 2,917,420 (2,788,849 in the U. S. A. and 128,571 in Canada) compared with 2,594,508 in the same period in 1936 (2,488,560 in the U. S. A. and 105,948 in Canada).

SPECIALIZE IN FRIENDS

A Lesson in Selling

By John T. Bartlett

The Chinese, whose philosophy is rich in terse proverbs, say: "One thousand friends are not enough; one enemy is too many."

He is a narrow-minded salesman, falling far short of his opportunities, who tells himself that the only friends who matter are those who actually give orders.

The salesman should specialize in all kinds of friends. He should cultivate friendships among the neighbors on Spruce Street; among the employees of hotels where he may stop; in the stores where he buys personal needs. He should have friends in lodges and clubs, and among the minor employees of concerns to whom he sells—or tries to sell.

The psychology of the thing is universal. The salesman who cultivates friendships, and makes his entire life a beautiful garden of exquisite relationships, is constantly subjecting his personality and character to refining forces.

The things in human nature which a salesman should have, to sell the most effectively, are things which many friendships, and continuous experience in friendship, bring out.

The power of a pleasing, winning smile. The voice which is free from irritating harshness, and other selfish qualities, and has, instead, pleasant, soothing, musical good will. The manners of the kind and considerate. The tact which, putting people at ease, also helps mightly to sell goods.

Yes, the salesman who constantly cultivates his garden of friendships, cultivates the qualities in himself, too.

And, of course, he develops an army which is always at work in his behalf. The fine thing about friendship is that reciprocation is inevitable. Those for whom the salesman does things soon are doing things for him—and often, things which mean sales.

As the Chinese put it—"One thousand friendships are not enough."

YOU GET WHAT YOU GIVE--

By C. J. Stover

To theologians may remain all speculation about a hereafter, heaven and hell and the rest of it. For my purposes both heaven and hell are here on earth and are inevitable consequences of our own behavior.

Over a period of perhaps fifteen years it was my privilege to know quite well a prominent business man and up until about 1930 he had my respect and admiration. He was a finely built, handsome, wealthy chap who was accepted in good homes and clubs.

One day he and three others of us met by chance, sat down to a friendly drink and engaged in a general conversation. As usually happens the talk turned to business and this man, for no apparent reason, told us of his early life, his progress in his industry and then, in minute detail, explained how he and two friends found an opportunity to buy a good, going business.

They formed a partnership, not a corporation, and with very little money set sail on the new venture. It made fair progress until an exceptional chance at a large contract came to the attention of my acquaintance.

Realizing the possibilities for large profit he boastfully told us how he kept this knowledge to himself, befuddled his partners and by gross misrepresentation so discouraged them that they eagerly accepted his paltry offer for their interest.

Then, after these partners had been frightened out, this chap took his plans to a bank, got plenty of financial support, based on his hidden contracts and from there on he made plenty of money.

It is perhaps needless to say that any respect I may have theretofore held for that man was completely gone when he had finished telling his story.

But there is a sequel.

This man's best friend was a broker and the broker's sales of "securities" to his friend resulted in bankruptcy

and poverty for both.

Some weeks ago the man died, after having spent the last three or four years of his life as a public charge. If those last few years were not hell for him then there cannot be any hell.

There *is* a law of compensation which is as inexorable as the law of gravity. We get what we give, no more, no less, and while the wheels sometimes turn exceeding slowly, they grind microscopically fine.

NEON SIGN CONSTRUCTION

Neon signs, those brilliant blue, green, red or other brightly lighted glass tube signs, like practically everything else used in our day to day life, utilize an asbestos product in their manufacture.

These signs were invented only a few years ago—now they appear practically everywhere, even on the

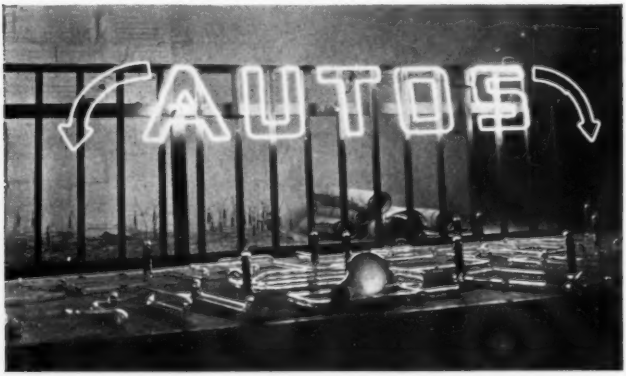

Photo by courtesy of C. W. Geiger

One of the Bay Bridge neon signs in course of manufacture. Note rolls of Asbestos Paper in the background.

smallest tap room, and literally miles of the glass tubing are used in their manufacture. For instance the world's greatest bridge—the San Francisco-Oakland Bay Bridge

—uses 685 lineal feet of the tubing for the signs "Autos" and "Trucks" installed on both sides of the toll collection booths, and this does not count the hundreds of feet of tubing used for the signs advertising various products.

Asbestos paper has been found most useful in the making of these signs and, as can be imagined, their manufacture provides quite a market for this asbestos material.

A brief description will show how the asbestos paper is used and how important it is. A heavy sheet of the asbestos paper is placed on the top of a long table and an artist traces thereon, with a glass pencil, the letters or figures to be used in the sign. This sheet of asbestos paper with the design drawn on it—the pattern in other words—is taken to the glass shop where an expert glass blower bends the glass tubes to conform with the patterns traced on the asbestos paper.

As the hot glass is blown and bent into the proper design it is laid on the asbestos paper pattern frequently —in fact as each bend is made—so that it will conform exactly with the design. It would be interesting to know the actual footage of asbestos paper used in the making of all the signs on the San Francisco-Oakland Bay Bridge.

The U. S. Bureau of Mines has recently issued its Mineral Yearbook, 1937, containing official Government statistical information on nearly 100 metals, minerals and mineral products. The Yearbook can be obtained by addressing the Superintendent of Documents, Government Printing Office, Washington, D. C. The price is $2.25 per copy.

Imports into U. S. A.
(Figures published by U. S. Dept. of Commerce)

Unmanufactured Asbestos:

	May 1936 Tons (2240 lbs.)	May 1937 Tons (2240 lbs.)
Africa (Br. S.)	384	905
Canada	12,957	21,434
Cyprus, Malta & Gozo	165	90
Finland	10	10
Italy	.....	147
Soviet Union (Russia)	335	.....
United Kingdom	.....	1
	13,851	22,587
Value	*$506,153*	*$813,733*

Tabulation of Crudes and Fibres:

Crude (Africa, Br. S.)	384	905
Crude (Canada)	183	202
Crude (Italy)	.....	1
Crude (United Kingdom)	.....	1
Mill Fibre (Canada)	4,541	6,204
Mill Fibre (Russia)	335	.....
Lower Grades (Canada)	8,233	15,028
Lower Grades (Cyprus, Malta & Gozo)	165	90
Lower Grades (Finland)	10	10
Lower Grades (Italy)	.....	146
	13,851	22,587

Manufactured Asbestos Goods:

	May 1936 Pounds	May 1937 Pounds
Austria (Packing)	36	3,322
Belgium (Shingles)	6,600	97,735
Belgium (Woven Fabrics)	1,327	.....
Germany (Yarn)	3,228	322
Germany (Packing)	12	350
United Kingdom (Yarn)	596	2,461
United Kingdom (Packing)	3,156	5,784
United Kingdom (Woven Fabrics)	1,109	985
	16,064	110,959
Value	*$ 5,559*	*$ 6,851*

Value of other asbestos manufactured goods not classified as to kind imported during May 1936 was $3,114; during May 1937, $24.

Exports from U. S. A.

Exports of unmanufactured asbestos for the month of May 1937 were 150 tons valued at $18,464; compared with 410 tons, valued at $31,612 in May 1936.

Exports of Manufactured Asbestos Goods:

	May 1936		May 1937	
	Pounds	Value	Pounds	Value
Paper, Mlbd. and Rlbd.	92,259	$10,363	73,028	$ 9,508
Pipe Covg. & Cement	156,677	7,962	1,209,858	29,467
Textiles, Yarn	89,522	49,241	2,002	941
Packing	(Inc. with Text. & Yarn)		114,571	59,445
Brake Lining—				
Molded and Semi-molded	.....	63,657	.....	66,242
Not molded	112,383[1]	22,092	186,017[1]	25,664
Clutch Facings	24,951[2]	4,163		
Molded and semi-molded	(above)		20,652[2]	5,760
Woven	(above)		39,159[2]	7,579
Magnesia and Mfrs. of	70,617	6,396	165,986	13,756
Asbestos Roofing	3,258[3]	12,577	5,151[3]	8,339
Other Manufactures	246,016	20,357	263,991	23,741

[1]Lin. Ft. [2]Unit [3]Sqs.

Imports and Exports by United Kingdom

Imports of Raw Material.

	June 1936		June 1937	
	Tons (2000 lbs.)	Value	Tons (2000 lbs.)	Value
From Africa (Rhodesia)	1,291	£27,493	1,551	£34,801
From Africa (Union of So.)	570	8,553	1,075	14,709
From Africa (Kenya)	.....	.....	1	30
From Australia	31	475	.....	.....
From Canada	660	6,273	1,887	20,004
From Cyprus	251	3,080	45	250
From Denmark	.....	3	.....	.....
From Italy	.....	.....	3	175
From Netherlands	.....	.....	120	5,315
From Soviet Union (Russia)	366	4,985	.....	.....
From U. S. of America	.....	3	.....	.....
	3,169	£50,865	4,682	£75,284

Imports of Asbestos Manufactures:

June 1937	46,961 Cwts.	valued at £17,870
June 1936	31,847 Cwts.	valued at £12,475

Imports and Exports by United Kingdom (Contd.)

Exports of Asbestos Manufactures:

	June 1936		June 1937	
	Cwts.	Value	Cwts.	Value
To Irish Free State	2,930	£ 3,017	3,648	£ 3,529
To British India	3,585	8,294	3,706	8,906
To Australia	1,179	6,122	2,297	7,328
To Other British Countries	16,181	21,905	18,338	30,721
To Netherlands	1,018	4,031	1,219	5,555
To Belgium	354	3,324	836	5,284
To France	489	2,335	786	3,655
To Italy	6	84	323	3,732
To Other Foreign Countries	9,277	26,940	16,055	41,076
	35,019	£76,052	47,208	£109,786

Exports of Raw Asbestos from Canada.

(Figures by Dominion Bureau of Statistics)

	May 1936		May 1937	
	Tons (2000 lbs.)	Value	Tons (2000 lbs.)	Value
United Kingdom	507	$ 32,867	1,260	$ 56,278
United States	5,842	305,542	7,711	445,320
Australia	34	1,580	208	10,099
Belgium	295	16,924	508	29,551
British India	20	1,000	.....	.....
Chile	.....	.....	30	1,500
France	470	34,980	808	48,199
Germany	916	78,714	2,028	145,473
Italy	.....	.....	301	24,280
Japan	2,360	85,758	9,133	363,912
Netherlands	42	1,365	44	1,708
Poland	33	2,350	132	10,010
Spain	3	390	.....	.....
	10,522	$561,470	22,163	$1,136,330
Sand and Waste				
United Kingdom	330	4,520	660	11,650
United States	10,206	161,512	17,333	286,087
Australia	.....	5	2	50
Belgium	131	2,520	211	4,121
France	30	660	162	3,480
Germany	323	6,676	542	9,880
Japan	65	1,250	100	1,775
Netherlands	30	660	46	825
Poland	.....	.....	66	1,452
Sweden	30	330	65	727
	11,145	178,133	19,187	320,047
	21,667	*$739,603*	*41,350*	*$1,456,377*

Exports of Raw Asbestos from South Africa.

	April 1936		April 1937	
	Tons (2000 lbs.)	Value	Tons (2000 lbs.)	Value
Australia	228	£ 2,892	104	£ 1,141
Algeria	.....	.....	10	187
Belgium	97	1,277	70	804
Canada	.....	.....	20	326
Chili	.....	.....	30	366
France	63	1,102	134	2,735
Germany	153	3,122	94	2,077
Holland	29	438	.....	.....
India	23	139	86	522
Italy	.....	.....	34	719
Japan	209	2,515	305	4,582
United Kingdom	1,159	11,718	551	6,102
United States	50	1,120	384	8,259
Uruguay	.....	.....	11	304
	2,011	£24,323	1,833	£28,124

ASBESTOS STOCK QUOTATIONS

		July 1937		
	Par.	Low	High	Last
Asbestos Corpn. (Com.) V. T.	np	78	92	89
Asbestos Corpn. New	np	84	92	87¼
Certainteed (Com.)	np	13	15	14
Certainteed (6% prior Pfd.)	100	52	56½	55
Flintkote (Com.)	np	27¾	32¾	32¾
Johns-Manville (Com.)	np	124	136	136
Johns-Manville (Pfd.)	100	123	124½	125
Raybestos-Manhattan (Com.)	np	31½	34	33¾
Ruberoid (Com.)	np	32½	38	36
Thermoid (Com.)	np	8⅛	9⅝	9⅝
U. S. Gypsum (Com.)	20	106	119	115½
U. S. Gypsum (Pfd.)	100	156¼	164	162

WORLD CONSUMPTION

A tabulation issued by "Tropag" Asbestos & Erzimport, Oscar H. Ritter, K. G., of Hamburg, Germany, compares world production of raw asbestos with world consumption during the past three years, that is 1934, 1935 and 1936:

	Production	Consumption
1934	334,948 short tons	324,295 short tons
1935	425,281 short tons	417,953 short tons
1936	553,450 short tons	522,285 short tons

Africa (Rhodesia)

(Statistics published by Rhodesia Chamber of Mines)

	May 1937 Tons (2000 lbs.)	Value £	s	d
Bulawayo District				
Nil Desperandum (Afr. Asb. Mng. Co. Ltd.)	641.20	7,346	8	2
Pangani (Pangani Tributors)	13.00	82	4	0
Shabanie (Rho. & Gen. Asb. Corp. Ltd.)	3,414.15	48,032	18	6
Victoria District				
King and Gath's (Rho. & Gen. Asb. Corp. Ltd.)	650.25	8,919	12	2
Murie Asbestos (R. M. Murie)	22.50	82	18	6
	4,741.10	64,464	1	4
May 1936	*4,704.00*	*68,807*	*8*	*10*

Africa (Union of South)

(Statistics published by Dept. of Mines & Industries of U. of S. A.)

	May 1936 Tons (2000 lbs.)	May 1937 Tons (2000 lbs.)
Transvaal		
Amosite	569.54	473.65
Blue	25.50	31.40
Chrysotile	1,291.47	1,349.27
Cape		
Blue	218.26	381.27
	2,104.77	2,235.59

Speaking of Patents as we do on page 20 it is rather troublesome to send dimes by mail, and stamps will not be accepted by the United States Patent Office, so we find it very convenient to purchase the coupons issued by the Patent Office in lots of 20 or multiples of 20; then when a patent is desired, all that is necessary is to fill out the coupon with the information requested thereon and send it to the patent office. These coupons can be had by writing the U. S. Patent Office, Washington, D. C., enclosing certified check or money order in the proper amount (each coupon representing the cost of one patent, or 10c).

NEWS OF THE INDUSTRY

BIRTHDAYS.

C. H. Carlough, President, Carolina Asbestos Co., Davidson, N. C., August 20th.

F. P. Kuchenbecker, President, Asbestos & Magnesia Materials Co., Chicago, Ill., August 23rd.

J. Gillmur Tyson, President American Asbestos Co., Norristown, Pa., August 25th.

Harrison S. Sweet, Manager Oneida Plant, Mohawk Asbestos Shingles, Inc., August 28th.

Leonard S. White, President, Asbestos Insulating & Materials Co., Milwaukee, Wis., August 28th.

W. D. Crumpton, W. D. Crumpton & Co., Englewood, N. J., August 29th.

Matthew Balich, President, Matthew Balich Corp., New York City, N. Y., August 29th.

A. W. Swartz, President, Linear Packing & Rubber Co., Philadelphia, Pa., August 31st.

O. F. Bergman, Secretary-Treasurer, Asbestos Insulating & Materials Co., Milwaukee, Wis., September 1st.

E. H. Pierce, Illinois Philip Carey Co., Chicago, Ill., September 3rd.

E. H. Jeffords, General Manager, General Asbestos & Rubber Division, N. Charleston, S. C., September 5th.

W. D. Pardoe, Vice President, Thermoid Rubber Co., Trenton, N. J., Sept. 8th.

B. Marcuse, President, Canadian Asbestos Co., Montreal, P. Q., Canada, September 11th.

Congratulations and best wishes are extended by "ASBESTOS" to all these gentlemen on the occasion of their birthdays.

CANADIAN JOURNAL OF RESEARCH, July 1937 issue, contains an article by R. Ruedy, Research Investigator, National Research Laboratories, Ottawa, under the title "The Coefficient of Heat Transfer for Vertical Surfaces in Still Air". The Journal is published by the National Research Council of Canada, Ottawa, Canada.

MASHABA RHODESIAN ASBESTOS, Ltd., has announced that its directors have been endeavoring to complete the necessary arrangements to enable them to deal with the creditors in Rhodesia. They have been successful in placing privately further debentures to enable arrangements to be completed. The debenture issue totals £60,000 ($300,000) and carries interest at 7 per cent. Having thus preserved the company's position and so completed this part of the program outlined at the annual meeting, the directors say that it is now desirable, without delay, to complete the purchase of the Honeybird property in Rhodesia, discharge the vendors' mortgage and provide a suffi-

cient sum to enable work to be commenced on the mines. Great efforts in this direction are now being made and the directors hope to report further favorable news in due course.

CAPE ASBESTOS COMPANY, LIMITED. Copy of the balance sheet for the year 1936 follows:

ASSETS

	£	s	d
Cash at Bankers on Deposit and Current Accounts, and Cash in hand	29,524	17	8
British Govt. and Colonial Securities at or under market price on 31st December 1936	64,220	19	6
Bills Receivable	5,494	13	7
Sundry Debtors less Reserves	62,425	17	4
Amount Due by Subsidiary Company	20,087	8	8
Stock of Crude and Mfd. Goods and Sundry Stores in Great Britain, South Africa, in transit and with agents, less: Reserve	106,269	19	10
Investments in other Companies at cost, less amts. written off	14,553	13	1
Holdings in Subsidiary Companies at cost, less amts. written off	42,787	15	0
Freehold Land and Factory at Barking at cost, less depre.	57,495	0	0
Freehold Land and Factory at Turin, at cost, less depre.	19,955	3	0
Asbestos Estates in South Africa, at cost, less depre.	43,649	9	4
Machinery, Plant, etc., at cost less depre.	29,639	16	7
	£496,104	13	7

LIABILITIES

Capital Account—			
Authorized 150,000 Ordinary Shares at £1 each			
150,000 Cumulative 5% Part. Pref. £1 each			
Issued 125,000 Ordinary Shares of £1 each	125,000	0	0
125,000 Cumulative 5% Part. Pref. £1 each	125,000	0	0
Reserve Fund	135,000	0	0
Employees' Benefit and Compensation Fund	6,248	6	0
Provision for Contingencies and Exchange	9,000	0	0
Sundry Creditors	24,520	7	7
Amount Due to Subsidiary Company	14,377	19	3
Purchase Consideration payable on property in South Africa	2,850	11	0
Liability Under Staff Pension Scheme	2,924	10	0
Profit and Loss Account:			
Balance brought forward from last year	15,942	9	4
Add: Profit for the year 1936	35,240	10	5
	£496,104	13	7

JOHNS-MANVILLE CORPORATION on July 17th celebrated the Silver Jubilee of its Manville, N. J., plant. More than 10,000 persons, employees, their families and friends were present, at Manville, N. J., for the occasion, parades, games and band concerts featuring the festivities. National, State and local officials and the company's executives were guests at a noon luncheon in the administration building.

THE "ETERNIT" LTD. (former "Martinit" Ltd., Amsterdam, Holland,) on July 21st opened at Goor, Holland, a new asbestos-cement plant equipped with the most modern machinery, for the manufacturing of all sorts of asbestos-cement products, more especially pressure pipes for water supply. The use of these pipes has greatly increased in Holland in the last few years, and they have been found to be very satisfactory in every respect.

JOHNS-MANVILLE CORPORATION has issued consolidated Income account for second quarter ending June 30, 1937, as follows:

	Second Quarter Ended	
	June 30, 1937	June 30, 1936
Sales: net of Returns and Allowances	$16,789,810.70	$12,193,900.18
Less: Mfg. Cost, Selling & Admin. Exp.	13,842,252.47	10,076,685.31
Profit before Depre., Deple. & Inc. Taxes	2,947,558.23	2,117,214.87
Less: Depre & Deple.	616,811.58	511,744.48
Profit after Depre. & Deple.	2,330,746.65	1,605,470.39
Less: Provision for Inc. & Excess Prof. Tax	541,331.99	307,333.33
Profit after Income Tax	1,789,414.66	1,298,137.06
Profit per Common Share (85,000)	1.95	1.38

	Six Months Ended	
	June 30, 1937	June 30, 1936
Sales: net of Returns and Allowances	$29,791,476.07	$20,604,765.87
Less: Mfg. Cost, Selling & Admin. Exp.	24,989,701.70	17,757,965.85
Profit before Depre., Deple. & Inc. Taxes	4,801,774.37	2,846,800.02
Less: Depre. & Deple.	1,202,934.24	990,543.13
Profit after Depre. & Deple.	3,598,840.13	1,856,256.89
Less: Provision for Inc. & Excess Prof. Tax.	787,506.76	381,355.32
Profit after Income Tax	2,811,333.37	1,474,901.57
Profit per Common Share (85,000)	3.00	1.43
Div. Paid on 75,000 Shs. Preferred Stock	262,500.00	262,500.00
Div. Paid on 750,000 Shs. Common Stock		750,000.00
Div. Paid on 850,000 Shs. Common Stock	1,275,000.00	

Johns-Manville Credit Corporation, a wholly-owned subsidiary, the earnings of which are not consolidated with those of the parent company, reported net earnings for the first half year of $98,805, an increase of $20,905, or 26.8 per cent, as compared with first half earnings of $77,900 in 1936.

HENRY SAMUEL DEMAREST, 70, president and treasurer of Greene, Tweed & Co., New York City, died at his home in Hempstead, N. Y., July 11. He had been associated with Greene, Tweed & Company for over 37 years, and before 1900 had been connected with Worthington Pump & Machinery Corporation. Greene, Tweed & Company are manufacturers and handlers of various articles, containing asbestos yarn in their composition.

Widely known in American and European Power circles, Mr. Demarest was a member of the A. S. M. E., a vice-president of the American-Polish Chamber of Commerce, and had received from the Polish Government the medal of the Order of Polonia Restituta.

Mr. Demarest was also a member of the Union League Club, Holland Society, Export Managers Club and the Merchants Club.

CAPE ASBESTOS CO., LTD. is busy reopening additional mines in South Africa, according to the South African Mining & Engineering Journal, and production generally is being accelerated to meet the considerable improvement in the demand for blue asbestos.

The company has recently acquired practically all the shares of Munnik-Myburgh Asbestos (Kaapsche Hoop), Ltd., and it is said that the productive capacity of this mine is to be expanded.

E. S. CROSBY has been named president of the Johns-Manville

International Corporation, a subsidiary of Johns-Manville Corporation.

Mr. Crosby joined Johns-Manville in 1928 when it absorbed the Celite Company, of which he was vice president and a director. His first position with J-M was as general manager of the Engineering Department. In 1929, when the Johns-Manville International Corporation was formed he became vice president and general manager. The presidency of the International Corporation has been held by Lewis H. Brown, president of Johns-Manville Corporation.

In addition to his new post, Mr. Crosby is also general manager of both Asbestos Fibres Distributors and the Replacement Automotive Products Department, both divisions of the J-M Sales Corporation.

JOHNS-MANVILLE. Seven promotions, including the election of three new vice presidents of the Johns-Manville Products Corporation, were announced on August first by Lewis H. Brown, president Johns-Manville Corporation.

The new vice presidents of the J-M Products Corporation, a subsidiary controlling most of the Company's widespread manufacturing and mining activities, are A. R. Fisher, formerly manager of the Company's largest factory at Manville, N. J.; J. P. Kottcamp, who has been the manager of the key Mid-Western factory at Waukegan, Ill.; and Alexander Cromwell, currently manager of the Pacific Coast manufacturing operations.

These men have general supervision over newly established manufacturing districts, each of which includes five factories. Mr. Fisher has been assigned the Eastern District, which includes plants at Asbestos, P. Q., Nashua, N. H., Oswego, N. Y., Manville, N. J., and an insulating board plant, not yet constructed.

The Central Division, consisting of plants at Waukegan, Ill., Alexandria, Ind., Richmond, Ind., Newall, W. Va., and Marrero, La., is under Mr. Kottcamp, whose headquarters remain at Waukegan.

Mr. Cromwell is in charge of manufacturing activities on the Pacific Coast at Lompoc, Pittsburg, Redwood City, Los Angeles and Watson, Calif.

J. E. Begert, formerly head of the Cost Reduction Department at J-M Headquarters in New York City, has succeeded Mr. Fisher as manager of the Manville plant.

At Waukegan factory K. W. Huffine, formerly manager of the Alexandria plant, has been named to succeed Mr. Kottcamp as manager.

H. J. O'Brien, formerly superintendent of the Rock Wool Department at the Manville factory, has become manager of the Alexandria plant.

W. Kelty, who was Assistant to Mr. Begert in the Cost Re-

duction Department, succeeds him as manager of that department.

Coincident with the establishment of these three new manufacturing districts, Johns-Manville has consolidated its mining operations at Asbestos, P. Q., and Chrysotile, Ariz., to form the Asbestos Division, which is under the charge of C. H. Shoemaker, vice president of Canadian Johns-Manville Company, Ltd.

PATENTS

This information obtained from the Official Patent Gazette, published weekly by the U. S. Patent Office, Washington, D. C.

Friction Lining, Manufacturing. No. 2,081,620. Granted on May 25 to Donald W. Fether, Downey, Cal., assignor to Emsco Asbestos Co., Downey, Cal. Application June 17, 1935. Serial No. 27,132.

Apparatus for making woven friction linings which includes means for weaving upper and lower courses of yarns converging toward a weaving point, a stationary container for supplying pulverulent solid substance and means for intermittently dropping by gravity alone, the pulverulent solid substance supplied from said container vertical upon the top surfaces of the yarns at substantially the weave point.

Gasket. No. 2,084,054. Granted on June 15 to George T. Balfe, Detroit, Mich., assignor to Detroit Gasket & Mfg. Co., Detroit. Original application January 3, 1931. Serial No. 506, 441. Now patent No. 1,928,585. Dated Sept. 26, 1933. Divided and this application Sept. 23, 1933. Serial No. 690,739.

A gasket comprising a plurality of alternate layers of cushion material and metal, a unitary intermediate layer of cushion material disposed between adjacent metal layers, the metal layers having struck up projections extending outwardly from their faces for holding the layers together, said intermediate layer of cushion material having the holding projections extending thereunto from opposite sides of the cushion layer, at least one of said metal layers having a layer of said cushion material on the side thereof, opposite said intermediate layer and projections formed on the metal layer and extending into the last mentioned cushion layer.

Composite Material. No. 2,084,232. Granted on June 15, to Roger W. Williamson, Ruxton, and Guy Leonard, Baltimore, Md. Application December 4, 1935. Serial No. 52,886.

A composite sheet consisting of an unfired non-friable substantially hard and tough sheet-like refractory body comprising a mixture of a hydraulic cement binder, asbestos, a foliated micaceous material, and a tempering agent, consisting of a hydrous aluminum silicate of the kaolin group, the proportions of tempering agent with respect to the total mixture being such that the body is readily workable with edge tools and penetrable by sharp metal anchoring devices without danger of body fracture.

Manufacture of Cementitious Insulating Composition from Vermiculite. No. 2,084,276. Granted on June 22 to Paul S. Denning, Joliet, Ill., assignor to F. E. Schundler and Co., Inc., Joliet, Ill., a corporation of Illinois and to the Illinois Clay Products Co., Joliet, Ill. Application April 2, 1935. Serial No. 14, 276.

The method of making a cementitious insulating material which is characterized by exfoliating granules of vermiculite and then floating the exfoliated granules upon a solution of magnesium sulphate to allow heavy impurities to sink, skimming off the floating vermiculite granules, draining off excess solution from the granules, then adding magnesium oxide and enough additional magnesium sulphate solution to bring the total magnesium sulphate solution, including that adhering to said granules to such proportion relative to the magnesium oxide to form magnesium oxysulphate cement, then mixing all the materials together and molding the same.

Asbestos Cement Products. No. 2,084,354. Granted on June 22 to Giovanni Morbelli, Milan, Italy, assignor to Frederick O. Anderegg, Forest Hills Boro, Pa. Application April 25, 1934. Serial No. 722,279.

A method of producing a self-setting, quick hardening, water impervious and corrosion and abrasion resistant shape which consists of intimately mixing 30 to 50 parts by weight of finely ground calcareous hydraulic cement with 50 parts by weight of finely ground siliceous material, adding thereto 15 to 20 parts by weight of asbestos fibre, and sufficient water to form a slurry, forming the shape, subjecting the formed shape to pressure ranging up to 6,000 pounds per square inch, permitting the compressed formed shape to stand at ordinary temperatures and then indurating the shape under steam pressure until all the free lime therein is brought into chemical combination with the silica therein and until the shape has become highly impervious to the passage of moisture.

Magnesia Insulation. No. 2,084,588. Granted on June 22 to Lewis B. Miller, Plainfield, N. J., assignor to Johns-Manville Corporation, New York. Application November 22, 1935. Serial No. 51,087.

Method of manufacturing Magnesia Insulation which comprises forming an aqueous solution of Magnesium bicarbonate, heating the solution to expel carbon dioxide and form a precipitate of magnesium basic carbonate, introducing asbestos fibres and a small proportion of a water soluble soap to form a mixture including the basic carbonate, asbestos and water, removing water from and shaping the said mixture and drying the shaped product, the said heating to expel carbon dioxide and precipitate basic carbonate being conducted at a maximum temperature not in excess of 200 degrees F. to cause the precipitate to be predominantly non-crystalline in nature.

THIS and THAT

U. S. S. R. Exports of Asbestos from the Soviet Union for the first quarter of 1937 totalled 4,412 metric tons (4863 short tons) valued at 1,500,000 rubles; compared with 4,922 metric tons (5,425 short tons) valued at 1,826,000 rubles in the first quarter of 1936. This according to figures published by the U. S. Department of Commerce.

Slate. A report "Slate Industry in 1936" issued on June 23rd by the Statistical and Economic Surveys, Nonmetal Economics Division, of the Department of the Interior, U. S. Bureau of Mines, Washington, D. C. may be of interest to some of our readers. It can be obtained by addressing the above Division and asking for Mineral Market Reports No. M. M. S. 567.

Map. A most interesting Geological Map of Southern Rhodesia has been received from the Geological Survey Office of Salisbury, Southern Rhodesia, and may be examined by anyone caring to stop in our office.

Employees. Total number of hourly paid workers employed in Johns-Manville factories has increased from a low mark of 2,783 in the depression depths of 1933 to almost 8,000 in June of this year. This is 2,900 more than were on the factory payrolls in the peak year of 1929. Total number of employees of the company at present is about 12,000.

G. E. Orders and Sales. Orders received by General Electric Company during the first six months of 1937 amounted to $217,265,619, an increase of 59% over the $136,968,597 received during the same period in 1936. The record first half year was in 1929 when orders received amounted to $220,716,456. Sales billed during the first six months of 1937 amounted to $171,076,645 compared with $119,273,388 during the corresponding period of 1936, an increase of 43%.

Profit for the first six months of 1937 is equivalent to 91c a share of common stock, compared with 58c a share in the same period last year.

Imports Building Material. Over $110,000,000 worth of foreign building material was brought into the United States during 1936, according to statement of Made in America Club, sponsors for the Build American campaign. This only embraces the main items of building materials. It does not include glass, wiring, miscellaneous lumber and steel manufactures, bulbs and various articles that go into building construction.

Be brief - *politely*

Be aggressive - *tactfully*

Be emphatic - *pleasantly*

Be positive - *diplomatically*

Be right - *graciously*

Be optimistic - *knowingly*

From Rays of Sunshine